

REMARKS/ARGUMENTS

Claims 11-22 remain in the application. Claim 11 has been amended as discussed below. The specification has been amended to reflect the issuance of the parent application, now U.S. Pat. No. 6,811,059.

Before addressing the rejections, Applicants would like to briefly summarize their inventive contribution to the art. The invention as presently claimed is directed to an apparatus for dispensing fluid into flexible containers, which includes a dispenser of the type having a reciprocating valving rod to control the flow of fluid product through the dispenser. The dispenser has improved self-cleaning features.

First, a cleaning fluid is directed into a central bore in the valving rod, from which the fluid exits via outlet ports at a distal end of the valving rod to direct cleaning fluid radially outwards and against interior surfaces of the dispenser to remove, e.g., dissolve, fluid product therefrom. This allows cleaning fluid to be directed to those parts of the interior surface of the dispenser that are most susceptible to clogging due to fluid product build up.

Secondly, the cleaning fluid is a mixture of a solvent and a gas. As explained in more detail in the specification at page 21, line 9 through page 22, line 26,

a cleaning fluid comprising both a gas and a solvent has been found to be advantageous, relative to a cleaning fluid that only includes a solvent. A gas/solvent cleaning fluid travels at a higher velocity and with more turbulence than a solvent-only cleaning fluid, providing increased cleaning action and energy at the dispenser tip. This not only results in increased cleaning efficacy, but it also permits less solvent to be used than with solvent-only systems.

(Page 22, lines 20-26.)

In order to more fully reflect the foregoing, the claims have been amended to specify that the solvent and gas that are directed through the valving rod is a mixture. Support for the amendment may be found, e.g., in the above-referenced passage in the specification.

Double Patenting

Claims 11-22 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-20 of copending application no. 09/760,189 in view of Sperry (6,283,174).

In response, Applicants respectfully submit that neither the claims of 09/760,189 nor the disclosure of Sperry '174 disclose a cleaning fluid comprising a mixture of a solvent and a gas as claimed in the present application. The '189 application claims a self-cleaning, solvent-based dispenser, but a solvent/gas mixture is not disclosed. Sperry '174 teaches a non-solvent-based, self-cleaning dispenser.

Accordingly, the instant claims are submitted to be patentably distinct from the combination of the claims of 09/760,189 in view of Sperry '174. Withdrawal of the double patenting rejection is, therefore, respectfully requested.

Claim Rejections – 35 USC §103(a)

Claims 11-22 stand rejected under 35 USC 103(a) as being unpatentable over Sperry '848 (5,996,848) in view of Sperry '174 (6,283,174) or Sperry '847 (5,255,847); or, alternatively, over Sperry '174 or Sperry '847 in view of Sperry '848.

Sperry '848 discloses a dispenser having a mixing chamber defining member 218 with a reciprocating purge rod 270 therein (FIG. 27). As seen, e.g., in FIG. 28, solvent flows outside of the purge rod 270.

In contrast, the claims of the present invention call for a dispenser in which cleaning fluid flows through the valving (purge) rod, i.e., through a bore in the valving rod and out of the bore via outlet ports such that the cleaning fluid is directed radially outwards and against the interior surface of the internal (mixing) chamber. The purge rod 270 of Sperry '848 has no such features and provides no such function.

Moreover, Sperry '848 does not disclose a cleaning fluid comprising a mixture of a solvent and a gas as also claimed. Instead, only solvent flows through the Sperry '848 dispenser (see, e.g., FIG. 28 and col. 35, line 17 through col. 37, line 49). While gas may be used to push solvent out of solvent chamber 140 (col. 24, lines 34-39), Sperry '848 does not teach or suggest that solvent and gas is mixed and delivered as a mixture to the dispenser as claimed.

Neither Sperry '174 nor Sperry '847 cures the foregoing deficiencies of Sperry '848.

Sperry '174 does not employ a solvent cleaning system at all. Instead, it teaches a cleaning mechanism which brings the end-face of the dispenser discharge nozzle into contact with a film web in order to remove fluid product or reaction products from the end-face (see, e.g., Abstract).

Sperry '847 teaches a dispenser ("injection cartridge") 12 with a valving rod 16 and a sintered tip 20 from which a foamable composition exits the dispenser (col. 3, lines 12-37; FIG. 2). The sintered tip 20 includes an opening 32, into which compressed air and solvent are fed to the tip via air-solvent mixing chamber 34 (col. 3, lines 45-49). From the mixing chamber 34, the solvent and air flow through the sintered tip 20 to provide a frothing mixture over a frusto-conical surface 36 of the tip to effect a cleaning action on the frusto-conical surface (col. 3, lines 50-65; FIG. 4). Thus, although Sperry '847 does teach a gas/solvent mixture, it

does not teach or suggest that such mixture is directed through the valving rod 16 as claimed. Further, Sperry '847 does not teach an air/solvent mixture that flows radially outwards from a bore in a valving rod such that the mixture is directed against the interior surface of an internal (mixing) chamber, as also claimed.

Accordingly, Applicants respectfully submit that no combination of Sperry '848, Sperry '847 and/or Sperry '174 is sufficient to establish a *prima facie* showing of obviousness against the claims as now presented because any such combination would fail to meet all of the elements recited in the claims.

Claims 11 and 17 stand rejected under 35 USC 103(a) as being unpatentable over Scholle (3,926,229) in view of Sperry '174 (6,283,174); or, alternatively, over Sperry '174 in view of Scholle.

Scholle discloses a filling head having a product inlet 14 and a product outlet tube 12, with an axial, reciprocating rod 20 controlling the flow of fluid product through the filling head. Rod 20 includes an axial bore 52, which opens into a downwardly facing conical recess 54 in a valve head 24 at the distal end of the rod (col. 2, lines 60-62). The upper end of the bore 52 is connected to a sanitary fluid, such as air or inert gas, which is fed into the bore 52 via a valve V2 (col. 2, lines 62-66). Valve V2 is timed to provide a pre-measured blast of fluid through the bore 52 and out of the opening 54 shortly after the valve head closes outlet tube 12 (sentence bridging cols. 2-3). This causes residual product in outlet tube 12 to be pushed down into the container to be filled (col. 3, lines 27-40).

Accordingly, Scholle is deficient in at least two respects. First, Scholle does not teach or suggest a cleaning fluid comprising a mixture of a solvent and a gas, which facilitates the removal of fluid products or

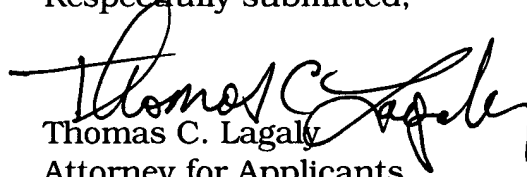
derivatives thereof that may be in adherence with the interior surface of the dispenser as claimed. Instead, Scholle teaches a blast of gas to push a residual cone of viscous product into a container (col. 3, lines 20-37). There is no teaching of mixing a solvent with the gas to remove, i.e., dissolve, residual fluid product from the interior surface of the filling head/dispenser as claimed. Moreover, since the fluid used to push the residual product into the container will follow the product into the container, it would be inconsistent with the teaching of Scholle to mix a solvent with the gas, as the solvent would contaminate the product in the container. Indeed, Scholle specifically teaches that the fluid should preferably be a “sterile inert gas...” (col. 3, lines 36).

Secondly, Scholle does not disclose “one or more outlet ports” in rod 20 that are “capable of directing cleaning fluid radially outwards from said bore and against one or more select portions of the interior surface...” as claimed. Instead, the conical opening 54 in valve head 24 is a single opening in the end of the rod, and directs the fluid primarily in a downward direction towards the outlet tube 12.

Sperry '174, which is discussed above, cures neither of the foregoing deficiencies of Scholle relative to the presently claimed invention. Accordingly, Applicants respectfully submit that claims are patentably distinct over the combination of Scholle and Sperry '174.

For all of the foregoing reasons, Applicants submit that the claims as now presented are patentably distinct from the art of record and in condition for allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,


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SEPT. 27, 2005

Date